



This compendium of Small Satellite Conference events is limited to those sponsored by NASA or that include NASA participation. Visit the SmallSat 2023 website for the complete list of conference events and to confirm scheduled times and locations.

Side Meetings

<https://smallsat.org/extras/side-meetings>

SATURDAY, AUGUST 5

LOCATION

6:00PM MT **NASA JPL F Prime Open Source Flight Software Tutorial Day 1** — NASA Jet Propulsion Laboratory / California Institute of Technology **UI 507**

SUNDAY, AUGUST 6

6:00PM MT **NASA JPL F Prime Open Source Flight Software Tutorial Day 2** — NASA Jet Propulsion Laboratory / California Institute of Technology **UI 507**

MONDAY, AUGUST 7

10:00AM MT **NASA Town Hall** — NASA Small Spacecraft Systems Virtual Institute **ESCL 130 (Auditorium)**

3:30PM MT **Distributed Systems Missions (DSM) and the NASA Operational Simulator for Small Satellites (NOS3)** — NASA Goddard Space Flight Center **ESLC 46**

3:30PM MT **NASA JPL F Prime Open Source Flight Software Product Line** — NASA Jet Propulsion Laboratory / California Institute of Technology **OM 225**

WEDNESDAY, AUGUST 9

3:30PM MT **Exploring Mars Together: Draft Plan for a Sustainable Future for Science at Mars** — NASA Headquarters Planetary Science Division **LSB 133**

Weekend Technical Sessions

LOCATION

Aggie Recreation Center,
Utah State University

<https://smallsat.org/conference/technical-sessions>

SATURDAY, AUGUST 5

ADVANCED TECHNOLOGIES - RESEARCH & ACADEMIA I **A Summary of Neural Radiance Fields for Shadow Removal and Relighting of Satellite Imagery** — NASA Ames Research Center **9:00AM MT**

MISSIONS AT SCALE: RESEARCH & ACADEMIA **Developing Intelligent Space Systems: A Roadmap and Survey** — NASA Goddard Space Flight Center **11:00AM MT**

NEXT ON THE PAD - RESEARCH & ACADEMIA **On-Orbit Results from the NASA Time-Resolved Observations of Recipitation Structure and Storm Intensity with a Constellation of Smallsats (TROPICS) Mission** — NASA Goddard Space Flight Center, NASA Langley Research Center **5:00PM MT**

SUNDAY, AUGUST 6

SCIENCE/MISSION PAYLOADS - RESEARCH & ACADEMIA II **Engineering Challenges of a CubeSat Mission Around the Moon: First Steps on the Path to SelenITA** — NASA Marshall Space Flight Center **9:00AM MT**

The Doppler Wind Temperature Sensor (DWTS) Flight Evaluation and Experiments — NASA Ames Research Center **9:45AM MT**

SUNDAY, AUGUST 6 (cont.)

COORDINATING SUCCESSFUL EDUCATIONAL PROGRAMS	Air Force's University Nanosatellite Program (UNP)/NASA Mission Concepts-1 Program — NASA Kennedy Space Center	12:00PM MT
SCIENCE/MISSION PAYLOADS - RESEARCH & ACADEMIA II	Adapting On Orbit: Conclusions of the STP-H6 Spacecraft Supercomputing for Image and Video Processing Experiment — NASA Goddard Space Flight Center	2:00PM MT
YEAR IN REVIEW - RESEARCH & ACADEMIA	CLICK A: Optical Communication Experiments from a CubeSat Downlink Terminal — NASA Ames Research Center	2:30PM MT
ADVANCED TECHNOLOGIES - RESEARCH & ACADEMIA II	The LightSail 2 Solar Sailing Mission Summary — NASA Jet Propulsion Laboratory	4:15PM MT
	Windform® XT 2.0 Use as 3U CubeSat Primary Structure — NASA Langley Research Center	4:30PM MT

**Weekday
Technical
Sessions**

LOCATION
Taggart Student Center,
Utah State University

<https://smallsat.org/conference/technical-sessions>

MONDAY, AUGUST 7

YEAR IN REVIEW	BioSentinel: Mission Summary and Lessons Learned from the First Deep Space Biology CubeSat Mission — NASA Ames Research Center	2:30PM MT
MISSIONS AT SCALE	HelioSwarm: The Swarm is the Observatory — NASA Ames Research Center	4:45PM MT
	Active Swarm Resiliency in the HelioSwarm Mission — NASA Ames Research Center	5:00PM MT
	An Overview of Distributed Spacecraft Autonomy at NASA Ames — NASA Ames Research Center	Alternate

TUESDAY, AUGUST 8

SCIENCE / MISSION PAYLOADS	The Pandora SmallSat: Mission Overview — NASA Goddard Space Flight Center	8:00AM MT
FUTURE DIRECTIONS	Small Spacecraft Technology, A NASA Perspective — NASA Headquarters / Space Technology Mission Directorate	11:00AM MT
	Towards a U.S. Framework for Continuity of Satellite Observations of Earth's Climate and for Supporting Societal Resilience — NASA Jet Propulsion Laboratory	11:30AM MT
PROPULSION	Extended Life Qualification of the Magnetically Shielded Miniature (MaSMi) Hall thruster — NASA Jet Propulsion Laboratory	1:45PM MT
	The Journey of the Lunar Flashlight Propulsion System from Launch Through End of Mission — NASA Jet Propulsion Laboratory, NASA Marshall Space Flight Center	2:15PM MT

WEDNESDAY, AUGUST 9

COMMUNICATIONS	Space Networking Implementation for Lunar Operations — NASA Glenn Research Center	Alternate
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ADVANCED TECHNOLOGIES I	BRAINSTACK – A Platform for Artificial Intelligence & Machine Learning Collaborative Experiments on a Nano-Satellite — NASA Ames Research Center, NASA Glenn Research Center	2:15PM MT
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THURSDAY, AUGUST 10

GROUND SYSTEMS	Space Station Operations Capabilities in a Shoebox: Marshall Space Flight Center’s Telescience Resource Kit — NASA Marshall Space Flight Center	8:15AM MT
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	NASA Operational Simulator for SmallSats (NOS3) – Design Reference Mission — NASA Independent Verification and Validation	9:00AM MT
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ADVANCED TECHNOLOGIES II	NASA Space Launch System Cubesats: First Flight and Future Opportunities — NASA Marshall Space Flight Center	10:45AM MT
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LOCATION
Fieldhouse Stage /
NASA Hyperwall

<https://smallsat.org/conference/swifties>

Swiftly Sessions 1

TUESDAY, AUGUST 8

9:45AM - 10:45AM MT

Signals-of-Opportunity Architecture and Technology for Earth Science Observations — NASA Jet Propulsion Laboratory

Swiftly Sessions 2

WEDNESDAY, AUGUST 9

9:45AM - 10:45AM MT

Multi-Element Missions at Mars Enabled Through Small, Low-Cost Platforms and Delivery — NASA Jet Propulsion Laboratory

NASA Electronic Parts and Packaging – SmallSat Reliability — NASA Goddard Space Flight Center

SelenITA Science Rationale: A Dual Lunar CubeSat Mission to Characterize the Near-Surface Electromagnetic Plasma Environment — NASA Marshall Space Flight Center

Swiftly Sessions 3

THURSDAY, AUGUST 10

9:45AM - 10:45AM MT

Access to Space (ATS) Decision Tree (DT) for Science Payloads — NASA Goddard Space Flight Center

Tailoring Early Concept Maturity Levels for Small Satellite Missions — NASA Ames Research Center

TechEdSat 7, 10, 13, 15: Exo-brake Experiments on the ISS, First Virgin Orbit, and First Firefly-Alpha Test Flights
— NASA Ames Research Center

The Pandora SmallSat Mission to Characterize Exoplanets and Their Host Stars
— NASA Jet Propulsion Laboratory, NASA Goddard Space Flight Center, NASA Ames Research Center



TUESDAY, AUGUST 8 3:30PM - 4:30PM MT

NASA's Strategic Framework – A Small Spacecraft Perspective

— *Small Spacecraft Technology Program, NASA Headquarters*

Overview of NASA's Science Mission Directorate Small Satellite Activities — *NASA Science Mission Directorate, NASA Headquarters*

Conjunction Assessment Best Practices — *Science Mission Directorate, NASA Headquarters*

Class D SmallSat Mission Acquisition Considerations — *Science Mission Directorate Explorers Program, NASA Headquarters*

SmallSats at Goddard Space Flight Center: Learning and Leaning Forward

— *Small Satellite and Special Projects Office, NASA Goddard Space Flight Center*

An Overview of Small Satellite Activities at NASA's Glenn Research Center

— *Space Science Project Office, NASA Glenn Research Center*

CubeSat Launch Initiative Update - Lessons Learned — *Launch Services Program, NASA Kennedy Space Center*

International Space Station (ISS) Trajectory and Satellite Deploy Operations

— *ISS Trajectory Operations and Planning Office Leidos / NASA Johnson Space Center*

NASA TechRise Student Challenge — *Flight Opportunities Program, NASA Armstrong Flight Research Center*

Distributed Science Observatory Missions at NASA's Jet Propulsion Laboratory

— *JPL Center for SmallSat Development NASA Jet Propulsion Laboratory, California Institute of Technology*

WEDNESDAY, AUGUST 9 3:30PM - 4:30PM MT

Lessons Learned from Additive Manufacturing during the Lunar Flashlight Mission

— *Exploration Systems Development Branch, NASA Marshall Space Flight Center*

TES-n/Nano-Orbital Workshop (NOW) Series: Advances in Cognitive Communication, Rapid Devices, and Artificial Intelligence/Machine Learning (AI/ML) Flight Experiments — *Engineering Directorate, NASA Ames Research Center*

NASA Small Spacecraft Technology Program's Pathfinder Technology Demonstrator Mission Series

— *Small Spacecraft Technology Program, NASA Ames Research Center*

The Flight Demonstration of an Ultra Low-Mass Small Spacecraft Solar Array

— *Office of the Chief Technologist, NASA Marshall Space Flight Center*

Distributed Systems Missions (DSM) and the NASA Operational Simulator for Small Satellites (NOS3)

— *Safety and Mission Assurance, NASA Goddard Space Flight Center*

Athena: Technology Demonstration of an Earth Radiation Budget Sensorcraft — *Science Directorate, NASA Langley Research Center*

Electrospray Thrusters for Smallsat Missions — *NASA Jet Propulsion Laboratory, California Institute of Technology*

Starling Swarm Technology Mission Status and Extended Mission — *Intelligent Systems Division, NASA Ames Research Center*

Designing Scalable Testbeds for Distributed Spacecraft Autonomy — *Intelligent Systems Division, NASA Ames Research Center*

R5: Pathfinding Lean Development and Accelerating Payloads to Orbit — *Engineering Directorate, NASA Johnson Space Center*

What's New With F Prime Open Source Flight Software

— *Small Scale Flight Software Group, NASA Jet Propulsion Laboratory, California Institute of Technology*

Poster Sessions

<https://smallsat.org/conference/posters>

WEEKEND POSTER SESSION 1

SATURDAY, AUGUST 5

Dedicated Viewing Time
10:15 - 11:00 AM; 3:30 - 4:15 PM

A Multi-Sensor, Low Volume, Automated Culture System for Space Biology Experiments — NASA Ames Research Center

A Framework for Multi-Agent Fault Reasoning in Swarm Satellite Systems — NASA Goddard Space Flight Center

WEEKDAY POSTER SESSION 1

TUESDAY, AUGUST 8

Dedicated Viewing Time
9:45 - 10:45 AM

A Reusable Framework for Fault Detection and Isolation in Small Satellites — NASA Jet Propulsion Laboratory

An Autonomous Agent Framework for Constellation Missions: A Use Case for Predicting Atmospheric CO2
— NASA Goddard Space Flight Center

NASA SpaceCube Next-Generation Artificial-Intelligence Computing for STP-H9-SCENIC on ISS
— NASA Goddard Space Flight Center

WEEKDAY POSTER SESSION 2

TUESDAY, AUGUST 8

Dedicated Viewing Time
3:30 - 4:30 PM

Distributed Spacecraft Mission (DSM) Plume Design Reference Mission (DRM) Inter-satellite link Modeling, Analysis and Simulation — NASA Goddard Space Flight Center

Trajectory Planning and Control Status in Initial and Cruise Phase to Earth-Moon Lagrange Point for 6U CubeSat EQUULEUS — NASA Jet Propulsion Laboratory

WEEKDAY POSTER SESSION 3

WEDNESDAY, AUGUST 9

Dedicated Viewing Time
9:45 - 10:45 AM

COMPACT: Analogy-Based Cost Estimation for CubeSats — NASA Jet Propulsion Laboratory

WEEKDAY POSTER SESSION 5

THURSDAY, AUGUST 10

Dedicated Viewing Time
9:45 - 10:45 AM

Pandora Payload Engineering for Exoplanet Astrophysics — NASA Goddard Space Flight Center

NASA Exhibits

LOCATION
Taggart Student Center,
NASA Lounge

<https://smallsat.org/exhibitors/exhibit-hall>

Exhibit Hours

All exhibits are open:
MON 11AM - 5PM
TUES 9AM - 5PM
WED 9AM - 5PM
THUR 9AM - 12PM

BOOTH

NASA Organization

Booth 74 NASA Science Mission Directorate

Booth 75 NASA SLS Secondary Payloads

Booth 76 NASA Goddard Space Flight Center

Booth 77 NASA Space Technology Mission Directorate

Booth 78 NASA Jet Propulsion Laboratory

Booth 79 NASA Advanced Multi-Mission Operations System

Booth 80 NASA Marshall Space Flight Center

Booth 81 NASA Ames Research Center Engineering

Booth 82 NASA Kennedy Space Center - Launch Services Program

Meet a NASA Program Executive / Project Manager

LOCATION
NASA Exhibit Lounge in the
Taggart Student Center

Meet NASA program executives, program managers, and investigators engaged in NASA SmallSat efforts! Each day of the conference during select afternoon and morning breaks, NASA staff will be available in the NASA Exhibit Lounge to speak with you on topics listed below. No appointments needed.

MONDAY, AUGUST 7

3:30 - 4:30PM MT

Access to Space and Conjunction Assessment

Danielle McCulloch

Program Manager, Flight Opportunities Program

Lauri Newman

*Conjunction Assessment Program Officer,
Science Mission Directorate*

Norman Phelps

Launch Service Program, CSLI/ELaNa Lead

TUESDAY, AUGUST 8

9:45AM - 10:45AM MT

NASA Science

David Cheney

Program Executive, Heliophysics Division

Rachele Cocks

Program Executive, Astrophysics Division

Florence Tan

Deputy Chief Technologist, Science Mission Directorate

Alan Zide

Program Executive, Heliophysics Division

WEDNESDAY, AUGUST 9

9:45AM - 10:45AM MT

NASA Project Management

John Hudeck

Deputy Chief, Small Satellite and Special Projects Office

Tom Johnson

Project Manager, Astrophysics and Heliophysics Portfolios

Matthew Napoli

Project Manager, BioSentinel

THURSDAY, AUGUST 10

9:45AM - 10:45AM MT

NASA Mission / Project Management

Elwood Agasid

*Deputy Program Manager, Small Spacecraft Technology Program
Project Manager, Cislunar Autonomous Positioning System
Technology Operations and Navigation Experiment (CAPSTONE)*

Samuel Pedrotty

*Project Manager, Realizing Rapid, Reduced-cost
high-Risk Research (R5)*